

# Geometry Chapter 1 Practice Test

## Multiple Choice

Identify the choice that best completes the statement or answers the question.

B

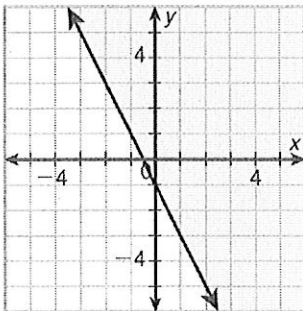
1. In which quadrant is the coordinate pair  $(-11, 1)$  located?

a. I  
b. II  
c. III  
d. IV



F

2. Which inequality is shown by the graph?



Shaded above  
solid line

f.  $y \geq -2x - 1$   
g.  $y \leq -2x - 1$   
h.  $y \geq -\frac{1}{2}x - 1$   
j.  $y \geq 2x - 1$

D

3. If  $f(x) = 3x - 5$ , what is  $f(-2)$ ?

a.  $-6x + 10$   
b. 1  
c.  $3x - 7$   
d. -11

$$f(-2) = 3(-2) - 5 \\ = -6 - 5$$

A

4. Thirty-two is what percent of 80?

f. 4%  
g. 25.6%  
h. 40%  
j. 256%

$$\frac{32}{80} = \frac{80}{80} P$$

Name: \_\_\_\_\_

ID: A



5. A recipe for a dessert calls for 2 cups of blueberries and serves 9 people. Which equation can be solved to find the number of cups of blueberries needed to serve 30 people?

a.  $\frac{2}{9} = \frac{n}{30}$

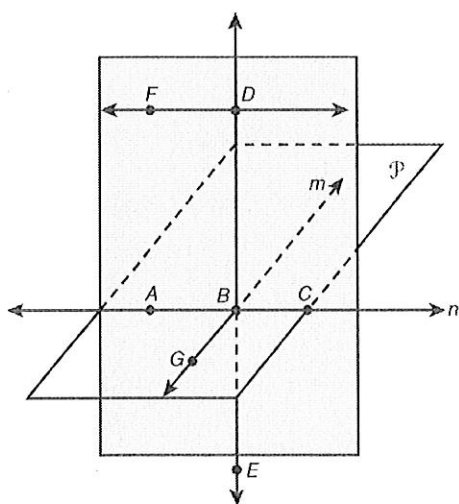
c.  $2 \cdot 9 = 30n$

b.  $\frac{2}{9} = \frac{30}{n}$

d.  $9 \cdot 30 = \frac{n}{2}$

### Short Answer

1. Name the plane containing line  $m$  in the figure.



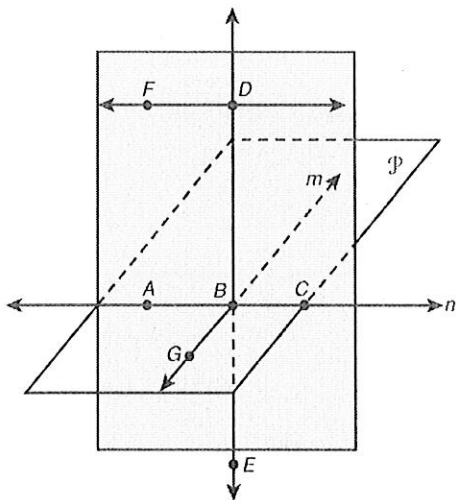
ABG.  
P  
ACG

More than 1 correct answer.

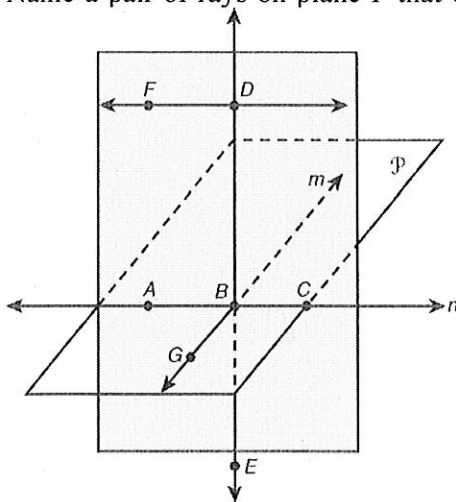
Possible.

**ID: A**

- $\overline{AB}$   
 $\overline{BC}$   
 $\overline{AC}$
- More than 1 correct  
 answer.  
 Possibilities



- $\overrightarrow{GB}$     $\overrightarrow{AB}$   
 $\overrightarrow{CB}$     $\overrightarrow{AC}$
- } Possibilities.

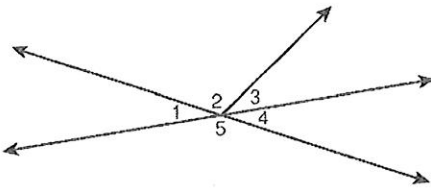




Name: \_\_\_\_\_

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9. Name a pair of vertical angles.



$\angle 1$  &  $\angle 3$

10. An angle measures three times the measure of its supplementary angle. Find the measure of both angles.

45, 135

$$\begin{aligned}\angle 1 &= x & x &= 3(180 - x) \\ \angle 2 &= 180 - x & x &= 540 - 3x \\ & & 4x &= 540 \\ & & x &= 135\end{aligned}$$

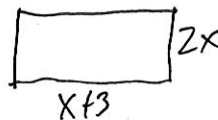
11. An angle measures  $10^\circ$  less than the measure of its complementary angle. Find the measure of both angles.

40, 50

$$\begin{aligned}m\angle 1 &= x & x + 10 &= 90 - x \\ m\angle 2 &= 90 - x & 2x &= 80 \\ & & x &= 40\end{aligned}$$

12. Find the area of a rectangle with a length of  $x + 3$  meters and a width of  $2x$  meters. Express your answer in terms of  $x$ .

$$2x^2 + 6x$$



$$\begin{aligned}A &= 2x(x+3) \\ &= 2x^2 + 6x\end{aligned}$$

13. The area of a triangle is 8.25 square centimeters. If the base of the triangle is 3 centimeters, what is the height?

5.5 cm

$$\begin{aligned}A &= \frac{1}{2}bh \\ 8.25 &= \frac{1}{2}(3)h \\ 8.25 &= \frac{1.5h}{1.5}\end{aligned}$$

14. Find the radius of a circle with a circumference of  $100\pi$  inches.

50 in

$$\begin{aligned}C &= \pi d & d &= 100 \\ C &= 100\pi \\ \pi d &= 100\pi\end{aligned}$$

15. Find the coordinates of the midpoint of  $\overline{GH}$  with endpoints  $G(3a, 3a)$  and  $H(-a, -7a)$ .

$(a, -2a)$

$$\begin{aligned}&\left( \frac{3a + (-a)}{2}, \frac{3a + (-7a)}{2} \right) \\ &\left( \frac{2a}{2}, \frac{-4a}{2} \right)\end{aligned}$$

Name: \_\_\_\_\_

ID: A

16.  $\overline{M}$  bisects  $\overline{RS}$ . R has coordinates  $(-2, -3)$ , and M has coordinates  $(1, 0)$ . find the coordinates of S.

$$(4, 3)$$

$$(1, 0) = \left( \frac{x + (-2)}{2}, \frac{y + (-3)}{2} \right)$$

$$\frac{x + (-2)}{2} = 1$$

$$\frac{x + (-2)}{2} = 1$$

$$\frac{y + (-3)}{2} = 0$$

$$\frac{y + (-3)}{2} = 0$$

17.  $\overline{AB}$  has endpoints  $A(-6, -4)$  and  $B(-1, 8)$ .  $\overline{CD}$  has endpoints  $D(2, 5)$  and  $C(14, 0)$ . Find the lengths of the two segments and determine if they are congruent.

$$AB = CD = 13$$

$$AB = \sqrt{(-1 - (-6))^2 + (8 - (-4))^2}$$

$$AB = \sqrt{25 + 144}$$

$$AB = \sqrt{169}$$

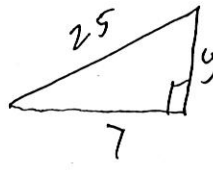
$$CD = \sqrt{(14 - 2)^2 + (0 - 5)^2}$$

$$CD = \sqrt{144 + 25}$$

$$CD = \sqrt{169}$$

18. A ladder is leaning against a building. The distance from the building to the bottom of the ladder is 7 feet. The ladder is 25 feet long. How high up the building is the top of the ladder?

$$24 \text{ ft}$$



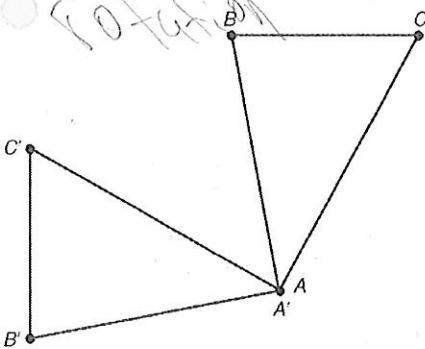
$$25^2 = y^2 + 7^2$$

$$625 = y^2 + 49$$

$$-49 \quad -49$$

$$\sqrt{576} = \sqrt{y^2}$$

19. Identify the transformation.



20. A transformation maps E onto F and G onto H. Identify the preimage of H.

G